

1. CONSTRUCTION                      AlGaInP orange visual light emitting diodes packaged with colorless epoxy.

2. USAGE                                Source of light for auxiliary AF

3. DIMENSIONS                        See Figure.1

4. ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Power Dissipation	P D	175mW
Forward Current	I F	70mA
Peak Forward Current	I F P	200mA ( Notes 1 )
Reverse Voltage	V R	5V
Operating Temperature	Topr	−40°C ~ + 85°C
Storage Temperature	Tstg	−40°C ~ +100°C
( Notes1 Duty 1/10 1kHz )		

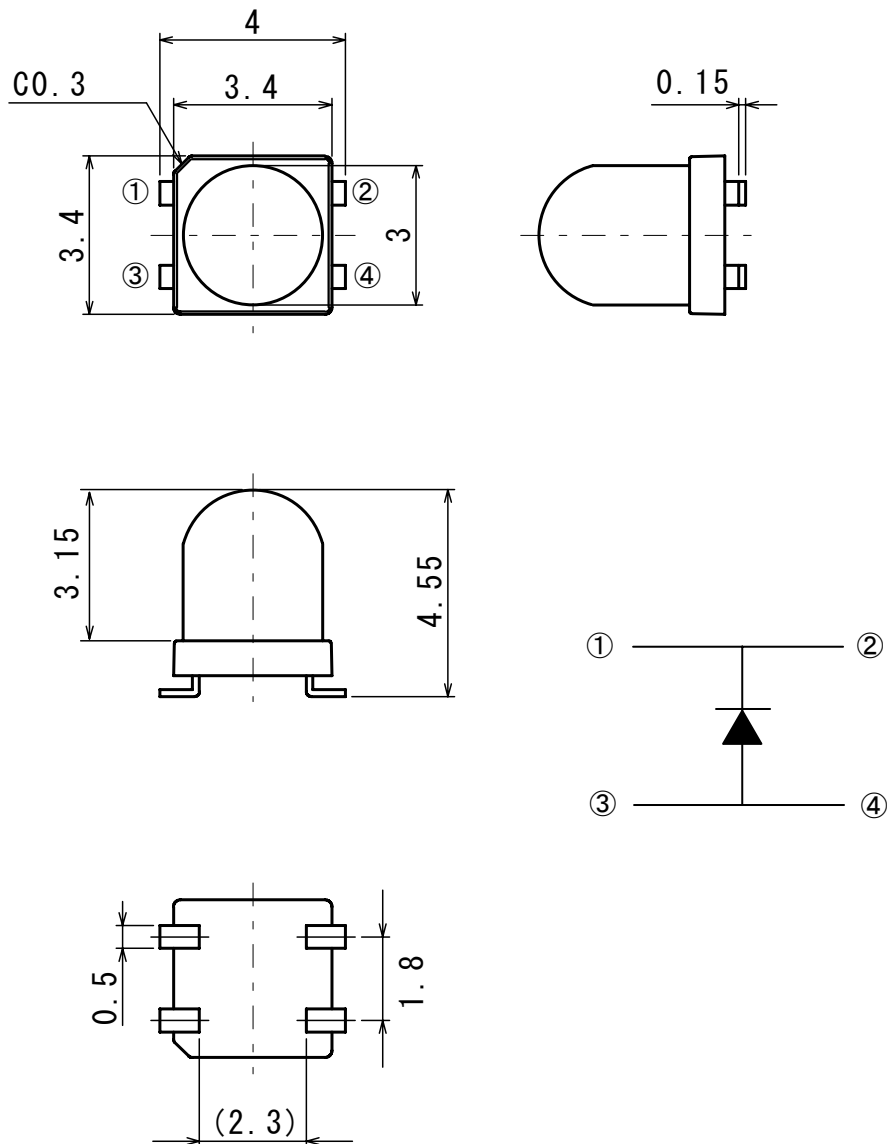
5. ELECTRO—CHARACTERISTICS ( Ta=25°C)

DISCRIPTION	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	VF	IF=20mA	(1.7)	2.0	(2.5)	V
Reverse Current	IR	VR=5V	—	—	100	μ A
<sup>*1</sup> Luminous Intensity	IV	IF=20mA	(20)	28	—	cd
Peak Wave Length	λP	IF=20mA	—	611	—	nm
Spectral Line Half Width	Δλ	IF=20mA	—	17	—	nm
Optical Axis Gap	θ	—	—	±3	—	°

<sup>\*1</sup> Measurement tolerance : ±10% ( ) : Reference

6. PRODUCT WEIGHT                Product weight per piece, approx 0.045gram.

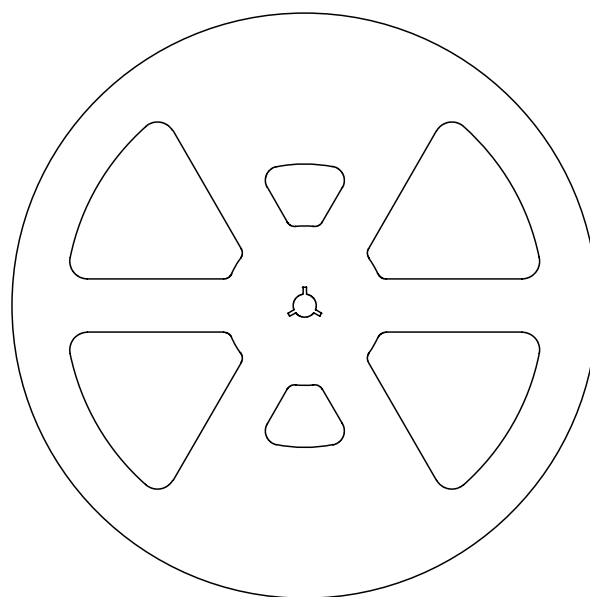
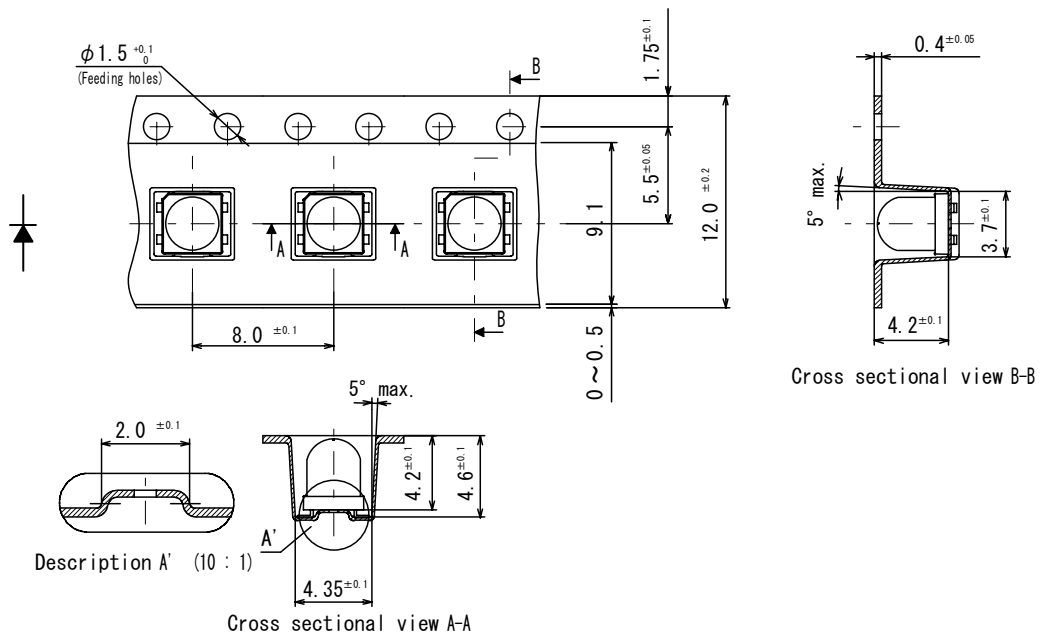
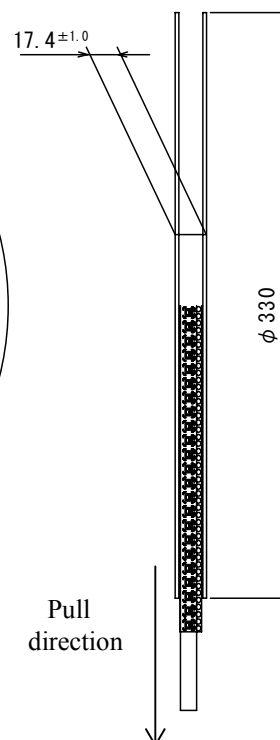
**【Figure.1】**



( Unit : mm )

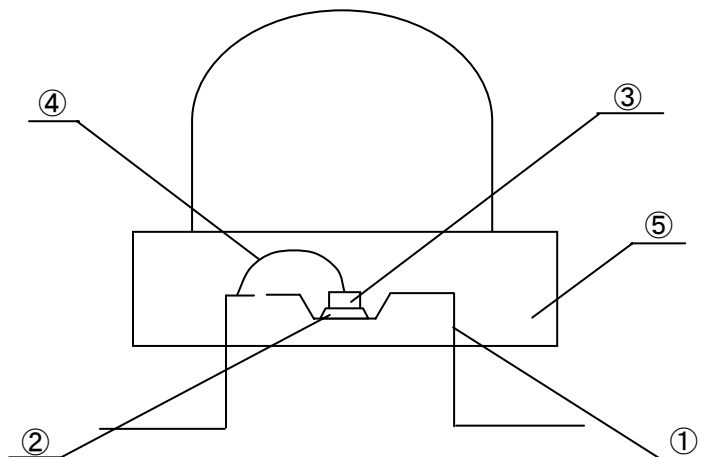
( ) : Reference

( note ) Tolerance is within  $\pm 0.1\text{mm}$  unless otherwise specified.

**【T96】**

 Packing quantity  
 1,500pcs / reel


( Unit : mm )

 ( note ) Tolerance is within  $\pm 0.2$ mm unless otherwise specified.

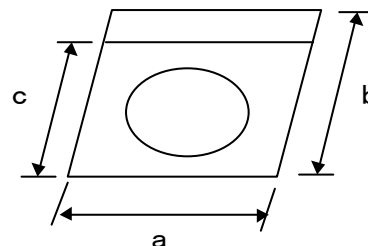
**【STRUCTURE · MATERIAL】**


No.	APPELLATION	MATERIAL
1	Frame	Ag plating over Cu frame
2	Die Bond	Ag Paste
3	Chip	AlGaInP
4	Bonding Wire	Gold
5	Resin	Epoxy Resin

## 【PACKAGING REQUIREMENTS】

### 1. PACKING

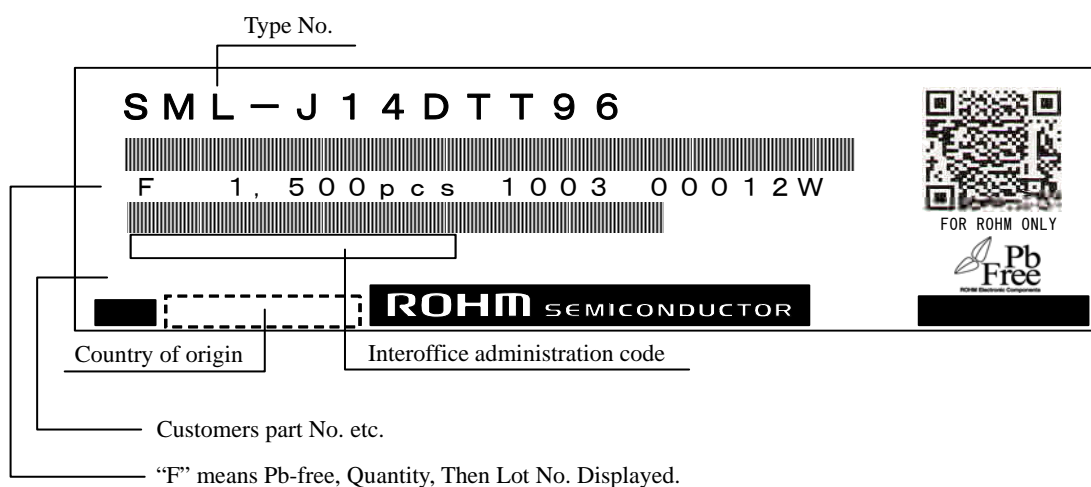
- (1) 1,500pcs are packed in one reel.
- (2) One reel is packed in aluminum bag.  
 The size of aluminum bag is 380(a)×400(b)mm.  
 The size up to 380(c)mm is to zipper.
- (3) Aluminum bag is sealed by pressured for all directions.





### 2. MARKING

The following information shall be described on a box label:  
 ROHM Type number, Packing quantity, Luminous intensity rank, Lot number etc.

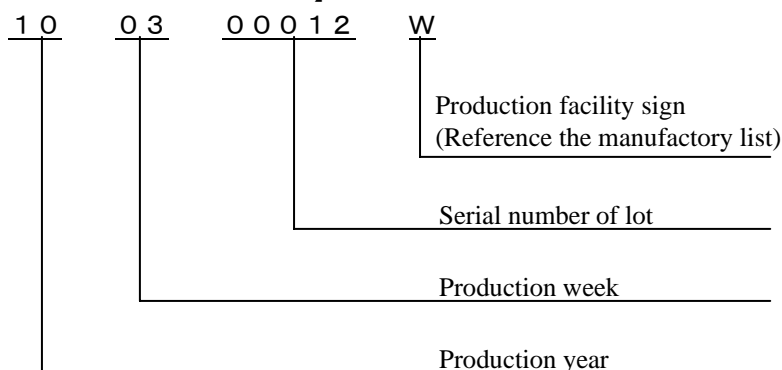
#### 【FORMER LABEL SPECIFICATION】



Note)  Indicates bar code expressed by code 39.

 indicates Pb-free Products.

#### 【EXAMPLE OF LOT NO. MARKING】

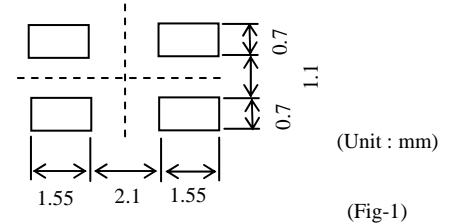


## 【ATTENTION POINT IN HANDLING】

This product was developed as a surface mount LED especially suitable for soldering.  
 Please take care of following points when using this device.

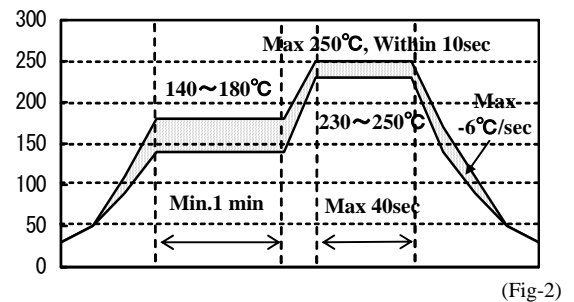
### 1. DESIGNING OF PCB

As for a recommendable solder pattern, Please refer to Fig-1.  
 The size and direction of the pad pattern depends on the condition of the PCB,  
 So, please investigate about the adjustment thoroughly before designing.



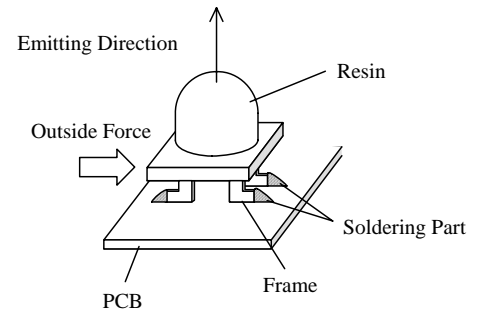
### 2. SOLDERING ( Sn-Cu, Sn-Ag-Cu, Sn-Ag-Bi-Cu )

LED products do not contain reinforcement materials such as glass fillers.  
 Therefore, thermal stress by soldering greatly influence its reliability.  
 The temperature conditions for reflow soldering should therefore be set up according to the characteristic of this product. (See Fig-2)  
 Furthermore, a sudden heating or cooling of LED cause internal stress greatly and has a possibility to break the device. Therefore, thermal gradient shall be gradual as possible.  
 Number of reflow process shall be max 2 times and these processes shall be performed in a row.  
 Cooling process to normal temperature shall be required between first and second soldering process.



### 3. HANDLING AFTER MOUNTING

In case outside force is given to the device, stress is concentrated to the jointed part between mold resin and substrate.  
 Therefore please be careful when handling LED and PCB for there is a possibility to break the device or PCB.



### 4. WASHING

Please note the following points when washing is required after soldering.

#### 4-1) WASHING SOLVENT

Isopropyl alcohol or other alcohol solvent is recommendable.

#### 4-2) TEMPERATURE

Below 30°C, immersion time ; within 3 minutes.

#### 4-3) ULTRA SONIC WASHING

Below 15 / 1 liter of solvent tub.

#### 4-4) COOLING

Below 100°C within 3 minutes.

### 5. Erosion Gas

Utilization in erosion gas atmosphere may degenerate the plating surface which might cause deterioration of solder strength, optical characteristics, or functions.  
 Please take precautions against occurrence of gas from the surrounding parts on the occasion of custody, and also after mounted on circuit board.

**6.STORAGE**

At reflow soldering, the reliability of this product is often influenced by moisture absorption so we apply the packaging with moisture proof for better condition is use, please also note that

6-1) Not to be opened before using.

6-2) To be kept in our moisture proof packaging with some desiccant (SILICA GEL) after opening it.

To be baked in case the SILICA GEL indicator changed its color from either blue to clear or green to pink.

6-3) Please use within 72 hours after the package was opened. (Condition at 30°C, max.70%Rh.)

In case it is not used within 72 hours, please put it back into our packaging.

**6-4) BAKING**

Please bake under reel condition at 60°C, 40~48 hours (max.20%Rh) after un-sealing.

While baking is done, the reel and emboss tape may be easily deformed.

Please be careful not to give any stress.

## 【ATTENTION POINTS IN SOLDERING OPERATION】

This product was developed as a surface mount LED especially suitable for reflow soldering. So reflow soldering is recommended. In case of implementing manual soldering, please take care of following points.

### 1. SOLDERING OPERATION

#### 1) SOLDER USED

Sn-Cu, Sn-Ag-Cu, Sn-Ag-Bi-Cu

#### 2) SOLDERING CONDITION

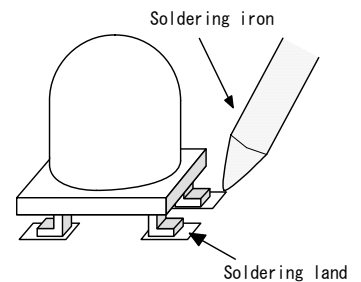
LED products do not contain reinforcement material such as a glass fillers.

So thermal stress by soldering greatly influence its reliability.

Please keep following points for manual soldering.

	ITEM	RECOMMENDED CONDITION
a)	Soldering iron	Less than 30W, top of iron less than 3mm.
b)	Heating method	Condition ) Temp. of iron top less than 350°C within 3 sec. Heating on PCB pattern, not direct to the LED. (Fig-1)
c)	Handling after soldering	Please handle after the part temp. Goes down to room temp.

Fig-1



### 3) WASHING

Please note the following points when washing is required after soldering.

#### 3-1) WASHING SOLVENT

Isopropyl alcohol or other alcohol solvent is recommendable.

#### 3-2) TEMPERATURE

Below 30°C, immersion time : within 3 minutes.

#### 3-3) ULTRA SONIC WASHING

Below 15W/1 liter of solvent tub.

#### 3-4) CURING

Below 100°C within 3 minutes.

### 4) STORAGE

At manual soldering, the reliability of this product is often influenced by moisture

absorption so we apply the packaging with moisture proof for better condition is use, please also note that

4-1) Not to be opened before using.

4-2) To be kept in our moisture proof packaging with some desiccant (SILICA GEL) after opening it.

To be baked in case the SILICA GEL indicator changed its color from either blue to clear or green to pink.

#### 4-3) STORAGE CONDITION

Please use products in a sort time after opening the package. In case all parts are not used at the sometime, put the remaining back into ROHM package.

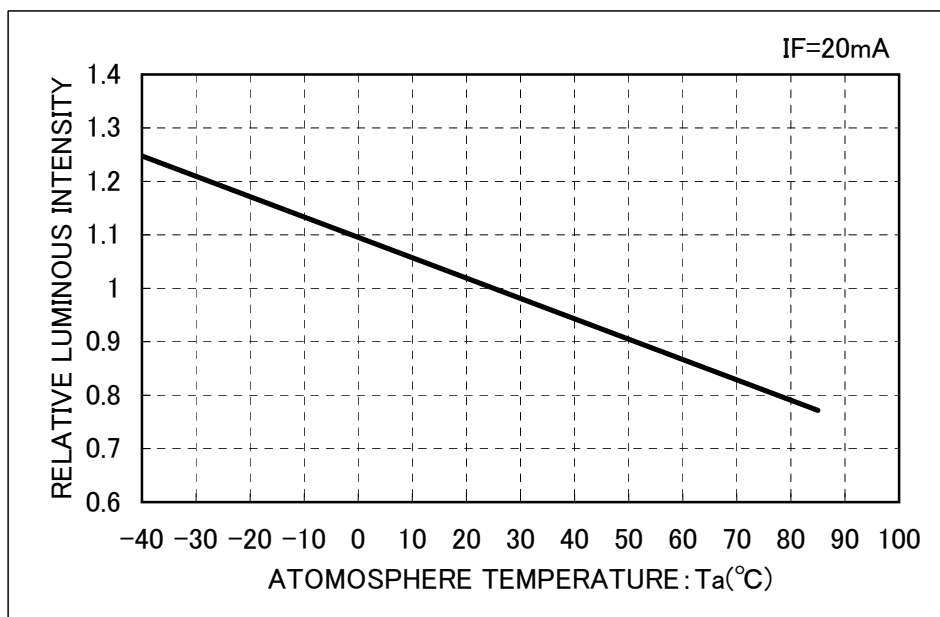
Storage condition : (Lower than 30°C, 70% Humidity max.72 hours.)

#### 4-4) BAKING CONDITION

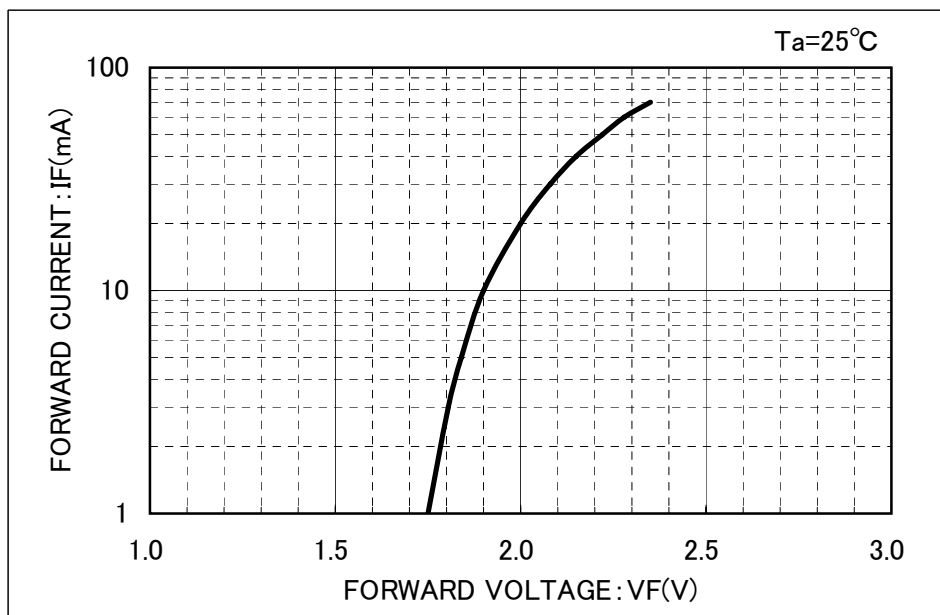
40~48 hours at 60°C, and humidity less than 20%



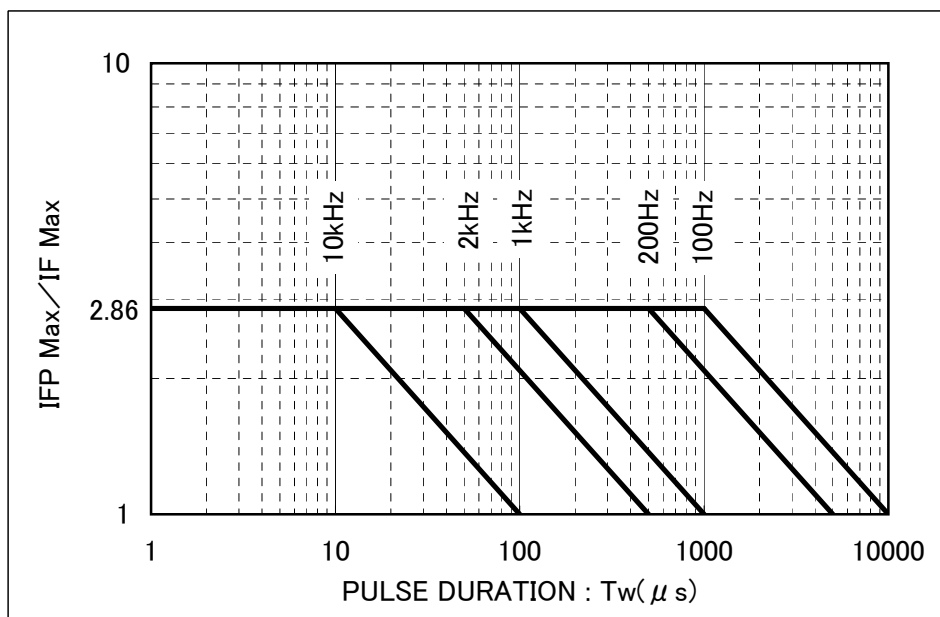
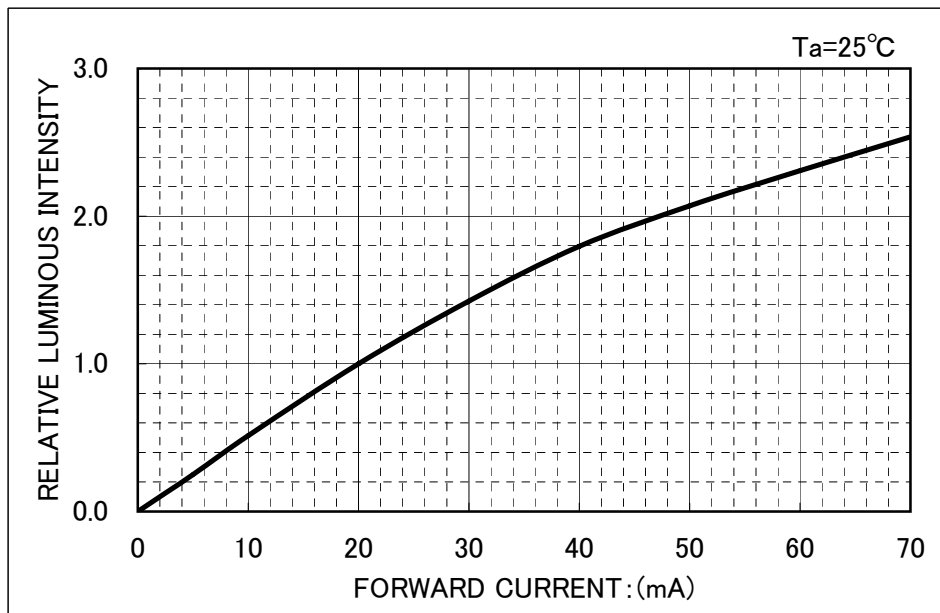
**RELATIVE LUMINOUS INTENSITY – ATMOSPHERE TEMPERATURE**  
光度 – 周囲温度特性



**FORWARD CURRENT – FORWARD VOLTAGE**  
順方向電流 – 順方向電圧特性

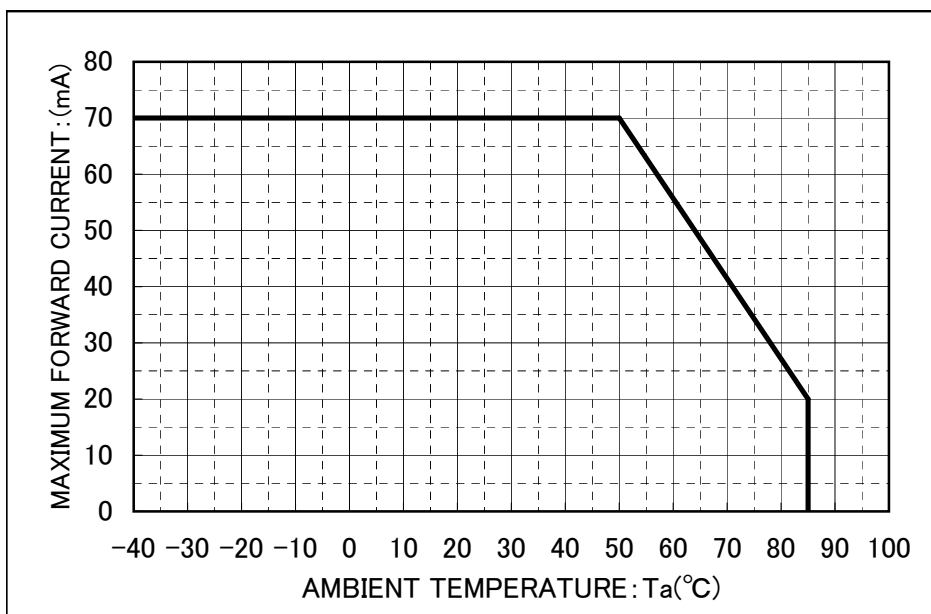


Reference

**RATIO OF MAXIMUM TOLERABLE PEAK CURRENT – PULSE DURATION**  
**最大許容ピーク電流 – パルス幅特性**

**RELATIVE LUMINOUS INTENSITY – FORWARD CURRENT**  
**光度 – 順方向電流特性**


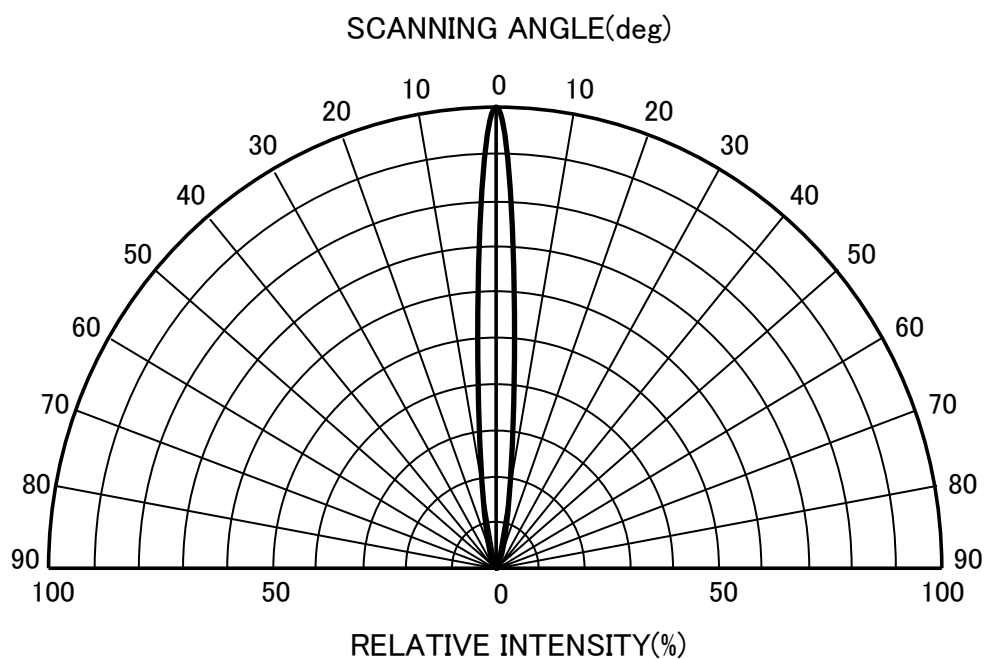
Reference

**DERATING**  
デイレイティング特性



Reference

**RELATIVE LUMINOUS INTENSITY – VIEWING ANGLE**  
指向特性



Reference